Amendments to the Claims

This listing of the claims will replace all prior versions and listings of claims in the application:

1. (Cancelled)

2. (Previously Presented) An exciter assembly for a vibratory roller, comprising:

(A) an exciter housing;

(B) an exciter shaft rotatably journaled in said exciter housing;

(C) a fixed eccentric weight rotationally fixed to said exciter shaft;

(D) a free swinging eccentric weight mounted on said exciter shaft so as to rotate with respect to said exciter shaft between 1) a first angular position in which the eccentricity of said free swinging eccentric weight adds to the eccentricity of said fixed eccentric weight and 2) a second angular position in which the eccentricity of said free swinging eccentric weight detracts from the eccentricity of said fixed eccentric weight, wherein said free swinging eccentric weight is mounted on said exciter shaft so as to be restrained from substantial axial movement along said exciter shaft without the use of any retaining structure that is fixed to said free swinging eccentric weight, wherein said free swinging eccentric weight is sandwiched between a first end of said fixed eccentric weight and a component comprising one of a torque transfer element and a bearing and is restrained from substantial axial movement along said exciter shaft solely by said first end of said fixed eccentric weight and said component.

3. (Previously Presented) The exciter assembly as recited in claim 2, wherein said free swinging eccentric weight is a first free swinging eccentric weight, and further comprising a second free swinging eccentric weight mounted on said exciter shaft so as to rotate with respect to said exciter shaft between 1) a first angular position in which the eccentricity of said second free swinging eccentric weight adds to the eccentricity of said fixed weight and 2) a second angular position in which the eccentricity of said second free swinging eccentric weight detracts from the eccentricity of said fixed eccentric weight, wherein said second free swinging eccentric weight is located axially between a second end of said fixed eccentric weight and another component comprising the other of said torque transfer element and said bearing and is restrained from substantial axial movement along said exciter shaft by said second end of said fixed eccentric weight and said another component, respectively.

4. (Previously Presented) An exciter assembly for a vibratory roller, comprising:

(A) an exciter housing;

(B) an exciter shaft rotatably journaled in said exciter housing;

(C) a fixed eccentric weight rotationally fixed to said exciter shaft;

(D) a rigid free swinging eccentric weight mounted on said exciter shaft so as to rotate as a unit with respect to said exciter shaft between 1) a first angular position in which the eccentricity of said rigid free swinging eccentric weight adds to the eccentricity of said fixed eccentric weight and 2) a second angular position in which the eccentricity of said rigid free swinging eccentric weight detracts from the eccentricity of said fixed eccentric weight, wherein said rigid free swinging eccentric weight is mounted on said exciter shaft so as to be restrained from substantial axial movement along said exciter shaft without the use of any retaining structure that is fixed to said rigid free swinging eccentric weight,

wherein said free swinging eccentric weight is sandwiched between a first end of said fixed eccentric weight and a component comprising one of a torque transfer element and a bearing that is axially spaced from said fixed eccentric weight, and

wherein said free swinging eccentric weight has a tab that extends over an adjacent axial end of said fixed eccentric weight and that engages a first side of said fixed eccentric weight when said free swinging eccentric weight is in said first angular position and that engages a second side of said fixed eccentric weight when said free swinging eccentric weight is in said second angular position.

5 – 9. (Cancelled)

10. (Previously Presented) An exciter assembly for a vibratory roller, comprising:

(A) an exciter housing;

(B) a first exciter shaft rotatably journaled in said exciter housing;

(C) a first fixed eccentric weight rotationally fixed to said exciter shaft;

(D) a first free swinging eccentric weight mounted on said exciter shaft so as to rotate with respect to said exciter shaft between 1) a first angular position in which the eccentricity of said first free swinging eccentric weight adds to the eccentricity of said first fixed eccentric weight and 2) a second angular position in which the eccentricity of said first free swinging eccentric weight detracts from the eccentricity of said first fixed eccentric weight, wherein said first free swinging eccentric weight is mounted on said first exciter shaft so as to be restrained from substantial axial movement along said first exciter shaft without the use of any retaining structure that is fixed to said first free swinging eccentric weight,

(E) a second exciter shaft rotatably journaled in said exciter housing;

(F) a second fixed eccentric weight rotationally fixed to said second exciter shaft; and

(G) a second free swinging eccentric weight mounted on said second exciter shaft so as to rotate with respect to said second exciter shaft between 1) a first angular position in which the eccentricity of said second free swinging eccentric weight adds to the eccentricity of said second fixed eccentric weight and 2) a second angular position in

which the eccentricity of said second free swinging eccentric weight detracts from the eccentricity of said second fixed eccentric weight, wherein said second free swinging eccentric weight is mounted on said second exciter shaft so as to be restrained from substantial axial movement along said second exciter shaft without the use of any retaining structure that is fixed to said second free swinging eccentric weight, further comprising

a drive element which is mounted on said first exciter shaft such that said free swinging eccentric weight on said first exciter shaft is restrained from substantial axial movement along said first exciter shaft solely by said first fixed eccentric weight and by said drive element, and

a driven element which is mounted on said second exciter shaft such that said free swinging eccentric weight on said second exciter shaft is restrained from substantial axial movement along said second exciter shaft solely by said second fixed eccentric weight and by said driven element, and wherein said drive element is coupled to said driven element so as to transfer drive torque thereto.

11. (Previously Presented) The exciter assembly as recited in claim 10, wherein said free swinging eccentric weight is a first free swinging eccentric weight, and

wherein said fixed eccentric weight is a first fixed eccentric weight, and

further comprising a first bearing which supports said first exciter shaft on said exciter housing;

wherein said first free swinging eccentric weight is mounted on said first exciter shaft between said first fixed eccentric weight and said first bearing and which is restrained from substantial axial movement along said first exciter shaft solely by said first fixed eccentric weight and said first bearing, respectively;

a second bearing which supports said second exciter shaft on said exciter housing; and

a second free swinging eccentric weight mounted on said second exciter shaft between said second fixed eccentric weight and said second bearing and which is restrained from substantial axial movement along said second exciter shaft solely by said second fixed eccentric weight and said second bearing, respectively.

12. (Previously Presented) An exciter assembly that is configured to impart vibrations to a rotating drum assembly of a vibratory roller, comprising:

(A) an exciter housing which is formed integrally with an axle housing of the rotating drum assembly;

(B) an exciter shaft which is rotatably journaled in said exciter housing by at least first and second bearings;

(C) a fixed eccentric weight which is rotationally fixed to said exciter shaft;

(D) a first free swinging eccentric weight which is sandwiched between a first end of said fixed eccentric weight and said first bearing and which is restrained from substantial axial movement along said exciter shaft solely by said fixed eccentric weight and said first bearing;

(E) a second free swinging eccentric weight 1) which is sandwiched between a second end of said fixed eccentric weight and a component consisting of a) said second bearing and b) a torque transfer element fixed to said exciter shaft and 2) which is restrained from substantial axial movement along said exciter shaft solely by said fixed eccentric weight and said component.

13. (Previously Presented) The exciter assembly as recited in claim 12, wherein said exciter shaft is a first exciter shaft, said fixed eccentric weight is a first fixed eccentric weight, and said second free eccentric weight is sandwiched between said first fixed eccentric weight and first torque transfer element which is fixedly mounted on said first exciter shaft, and further comprising

a second exciter shaft which is rotatably journaled in said exciter housing by at least third and fourth bearings;

a second torque transfer element which is fixedly mounted on said second exciter shaft and operatively coupled to said first torque transfer element;

a second fixed eccentric weight which is rotationally fixed to said second exciter shaft;

a third free swinging eccentric weight which is sandwiched between a first end of said second fixed eccentric weight and said third bearing and which is restrained from substantial axial movement along said second exciter shaft solely by said second fixed eccentric weight and said third bearing; and

a fourth free swinging eccentric weight which is sandwiched between a second end of said second fixed eccentric weight and said second torque transfer element and which is restrained from substantial axial movement along said second exciter shaft solely by said second fixed eccentric weight and said second torque transfer element.

14. (Previously Presented) A vibratory roller comprising:

(A) a chassis;

(B) a drum assembly supporting said chassis on a surface to be compacted, said drum assembly being hollow and having a length corresponding to a width of a strip to be compacted, said drum assembly comprising an axle housing and a drum rotatably supported on said axle housing via an axle; and

(C) an exciter assembly which imparts vibrations to said drum and which is fully contained within said drum, said exciter assembly comprising:

(1) an exciter housing located within said axle housing,

(2) an exciter shaft rotatably journaled in said exciter housing by first and second bearings,

(3) a fixed eccentric weight rotationally fixed to said exciter shaft,

(4) first and second free swinging eccentric weights, each of which is mounted on said exciter shaft so as to rotate with respect to said exciter shaft between 1) a first angular position in which the eccentricity of said first and second free swinging eccentric weights adds to the eccentricity of said fixed eccentric weight and 2) a second angular position in which the eccentricity of said first and second free swinging eccentric weights detracts from the eccentricity of said fixed eccentric weight, and

(5) a motor having a rotary output shaft which is coupled to said exciter shaft and which is co-axial with said exciter shaft.

15. (Previously Presented) The vibratory roller as recited in claim 14, wherein each of said first and second free swinging eccentric weights is mounted on said exciter shaft between a respective end of said fixed eccentric weight and an adjacent component of said exciter assembly so as to be restrained from substantial axial movement along said exciter shaft without the use of any retaining structure that is fixed to said first and second free swinging eccentric weights.

16. (Previously Presented) The vibratory roller as recited in claim 15, wherein said first free swinging eccentric weight is sandwiched between said fixed eccentric weight and one of said first and second bearings and said second free swinging eccentric weight is sandwiched between said fixed eccentric weight and a torque transfer element affixed to said exciter shaft.

17. (Previously Presented) The vibratory roller as recited in claim 14, wherein said vibratory roller is a vibratory trench roller, and wherein said rotary output shaft is splined directly to said exciter shaft.

18. (Previously Presented) The vibratory roller as recited in claim 14, wherein said fixed eccentric weight is formed integrally with said exciter shaft.

19. (Original) The vibratory roller as recited in claim 14, wherein said exciter housing is formed integrally with said axle housing.

20. (Previously Presented) A method of assembling an exciter assembly for a compaction machine comprising:

(A) fixing a torque transfer element and a bearing to an exciter shaft;

(B) fixing an eccentric weight to said exciter shaft;

(C) mounting first and second free swinging eccentric weights on said exciter shaft adjacent respective ends of said fixed eccentric weight so as to be rotatable a limited amount relative to said exciter shaft;

(D) restraining said first and second free swinging eccentric weights from substantial axial movement along said exciter shaft solely by sandwiching said first and second free swinging eccentric weights between said respective ends of said fixed eccentric weight and operative components of said exciter assembly, each of said operative components comprising one of said bearing and said torque transfer element.

21. (Previously Presented) The method as recited in claim 20, wherein the step of axially restraining said first and second free swinging eccentric weights comprises sandwiching said first free swinging eccentric weight between said fixed eccentric weight and said bearing and sandwiching said second free swinging eccentric weight between said fixed eccentric weight and said torque transfer element.

22. (Previously Presented) The method as recited in claim 21, wherein said exciter shaft is a first exciter shaft, said fixed eccentric weight is a first fixed eccentric weight, said bearing is a first bearing, and said torque transfer element is a first torque transfer element, and further comprising:

fixing a second torque transfer element and a second bearing to a second exciter shaft;

fixing a second eccentric weight to said second exciter shaft;

mounting third and fourth free swinging eccentric weights on said second exciter shaft adjacent respective ends of said second fixed eccentric weight so as to be rotatable a limited amount relative to said second exciter shaft;

restraining said third free swinging eccentric weight from substantial axial movement along said second exciter shaft solely by sandwiching said third free swinging eccentric weight between said second fixed eccentric weight and said second bearing; and

restraining said fourth free swinging eccentric weight from substantial axial movement along said second exciter shaft solely by sandwiching said fourth free swinging eccentric weight between said second fixed eccentric weight and said second torque transfer element.

23. (Original) The method as recited in claim 20, further comprising coupling an output shaft of a motor to said exciter shaft such that said motor output shaft extends coaxially with said exciter shaft.

24. (Cancelled)

25. (Previously Presented) The method as recited in claim 20, wherein at least some of the fixing steps comprise pressing the associated components onto said exciter shaft.

26. (Previously Presented) The method as recited in claim 20, wherein the step of fixing said fixed eccentric weight to said exciter shaft comprises forming said fixed eccentric weight integrally with said exciter shaft.

27. (Previously Presented) A method comprising:

(A) assembling an exciter assembly by

(1) fixing a torque transfer element and a bearing to an exciter shaft,

(2) fixing an eccentric weight to said exciter shaft,

(3) mounting first and second free swinging eccentric weights on said exciter shaft adjacent respective ends of said fixed eccentric weight so as to be rotatable a limited amount relative to said exciter shaft, and

(4) restraining said first and second free swinging eccentric weights from substantial axial movement along said exciter shaft solely by sandwiching said first and second free swinging eccentric weights between respective ends of said fixed eccentric weight and operative components of said exciter assembly, each of said operative components comprising one of said bearing and said torque transfer element; then

(B) inserting said exciter assembly axially into an opening in an exciter housing and mounting said exciter assembly in said exciter housing;

(C) mounting said exciter assembly on a trench roller in operative communication with a rotatable drum assembly that supports said trench roller on a surface to be compacted.

28. (Previously Presented) The method as recited in claim 27, wherein the step of axially restraining said first and second free swinging eccentric weights comprises sandwiching said first free swinging eccentric weight between said fixed eccentric weight and said bearing and sandwiching said second free swinging eccentric weight between said fixed eccentric weight and said torque transfer element, and wherein said exciter shaft is a first exciter shaft, said fixed eccentric weight is a first fixed eccentric weight, said bearing is a first bearing, said opening in said exciter housing is a first opening, and said torque transfer element is a first torque transfer element, and further comprising assembling a second exciter assembly by:

fixing a second torque transfer element and at a second bearing to a second exciter shaft,

fixing a second eccentric weight to said second exciter shaft,

mounting third and fourth free swinging eccentric weights on said second exciter shaft adjacent respective ends of said second fixed eccentric weight so as to be rotatable a limited amount relative to said second exciter shaft,

restraining said third free eccentric weight from substantial axial movement along said second exciter shaft solely by sandwiching said third free swinging eccentric weight between said second fixed eccentric weight and said second bearing,

restraining said fourth free swinging eccentric weight from substantial axial movement along said second exciter shaft solely by sandwiching said fourth free swinging eccentric weight between said second fixed eccentric weight and said second torque transfer element, and

inserting said second exciter assembly axially into a second opening in said exciter housing and mounting said second exciter assembly in said exciter housing.

29. (Original) The method as recited in claim 27, further comprising coupling an output shaft of a motor to said exciter shaft such that said motor output shaft extends coaxially with said exciter shaft.

30. (Previously Presented) The method as recited in claim 27, wherein the inserting step comprises inserting the exciter assembly into an exciter housing that is formed integrally with an axle housing of said trench roller.

31. (Cancelled)